

What is claimed is:

1. An electronic device comprising:

2 a temperature sensor; and

a clock controller electrically coupled with said temperature sensor, wherein said

4 clock controller receives a temperature signal from said temperature sensor and

produces clock signals of varying frequencies in response to said temperature

6 signal.

2. The electronic device of claim 1, wherein said clock signals increase in frequency in

2 response to a decrease in said temperature signal, and said clock signals decrease in

frequency in response to an increase in said temperature signal.

3. The electronic device of claim 1, wherein said electronic device is a computer.

4. The electronic device of claim 1, wherein said electronic device is an integrated

2 circuit.

5. The electronic device of claim 4, wherein said temperature sensor is a thermal diode.

6. The electronic device of claim 1, wherein said clock includes a phase-locked loop.

7. The electronic device of claim 6, wherein said phase-locked loop is digital.

8. The electronic device of claim 1, wherein said clock automatically changes

2 frequencies during normal operation of said electronic device.

9. An electronic device comprising:

2 a power supply failure detector; and

a clock electrically coupled with said power supply failure detector, wherein said

4 clock receives a power fail signal from said power supply failure detector and

produces clock signals of varying frequencies in response to said power fail

6 signal.

10. The electronic device of claim 9, wherein said clock signals decrease in frequency in response to said power fail signal.

11. The electronic device of claim 9, wherein said electronic device is a computer.

12. The electronic device of claim 9, wherein said electronic device is an integrated circuit.

13. The electronic device of claim 12, wherein said power supply failure detector is built into a power supply.

14. The electronic device of claim 9, wherein said clock includes a phase-locked loop.

15. The electronic device of claim 9, wherein said clock automatically changes frequencies during normal operation of said electronic device.

16. An electronic device comprising:

a power supply failure detector; and

a power supply controller of said electronic device electrically coupled with said power supply failure detector, wherein said power supply controller adjusts a power supply voltage in response to said power fail signal.

17. A method for adjusting the operation of an electronic device comprising the steps of:

a) reading a temperature value of said electronic device; and

b) automatically setting said clock frequency in response to said temperature value.

18. The method for adjusting the operation of an electronic device of claim 17, wherein said clock frequency is automatically set to a first frequency in response to a first temperature value, and said clock frequency is automatically set to a second frequency in response to a second temperature value.

19. The method for adjusting the operation of an electronic device of claim 18, wherein said first frequency is less than said second frequency when said first temperature is greater than said second temperature.

20. The method for adjusting the operation of an electronic device of claim 18,

wherein said first frequency is greater than said second frequency when said first temperature is less than said second temperature.

21. A method for adjusting the operation of an electronic device comprising the steps of:

a) detecting a power supply failure; and

b) automatically setting a clock frequency for said electronic device in response to said power supply failure.

22. The method for adjusting the operation of an electronic device of claim 21, wherein

said clock frequency is automatically set to a first frequency during normal operation, and said clock frequency is automatically set to a second frequency in response to a power supply failure.

23. The method for adjusting the operation of an electronic device of claim 22,

wherein said first frequency is greater than said second frequency.

24. A method for adjusting the operation of an electronic device comprising the steps of:

a) reading a first temperature value;

b) reading a new temperature value;

c) comparing said new temperature value to said first temperature value;

d) increasing a clock frequency when said new temperature value is less than said first temperature value; and

e) decreasing a clock frequency when said new temperature value is greater than said first temperature value.

25. The method for adjusting the operation of an electronic device of claim 24, further

comprising the step of:

f) replacing said first temperature value with said new temperature value.

26. The method for adjusting the operation of an electronic device of claim 25, further  
2 repeating steps b) through f) at least once during operation of said electronic device.

27. The method for adjusting the operation of an electronic device of claim 25, further  
2 repeating steps b) through f) continually during operation of said electronic device.

28. A method for adjusting the operation of an electronic device comprising the steps of:

2 a) detecting a power fail signal; and

b) decreasing a clock frequency when said power fail signal is detected.

29. The method for adjusting the operation of an electronic device of claim 28, further  
2 comprising the step of:

c) decreasing a power supply voltage when said power fail signal is detected.

30. The method for adjusting the operation of an electronic device of claim 29, further  
2 repeating steps a) through b) at least once during operation of said electronic device.

31. The method for adjusting the operation of an electronic device of claim 29, further  
2 repeating steps a) through b) continually during operation of said electronic device.

32. An electronic device comprising:

2 means for measuring a temperature of said electronic device;

means for adjusting a clock frequency in response to said temperature of said

4 electronic device.

33. The electronic device of claim 32, wherein said means for adjusting a clock

2 frequency increases said clock frequency in response to a decrease in said

temperature, and said means for adjusting a clock frequency decreases said clock

4 frequency in response to an increase in said temperature.

34. The electronic device of claim 32, wherein said electronic device is a computer.

35. The electronic device of claim 32, wherein said electronic device is an integrated  
2 circuit.

36. The electronic device of claim 35, wherein said means for measuring a temperature is  
2 a thermal diode.

37. The electronic device of claim 32, wherein said means for adjusting a clock  
2 frequency includes a phase-locked loop.

38. The electronic device of claim 32, wherein said means for measuring a temperature  
2 and said means for adjusting a clock frequency automatically operate during normal  
operation of said electronic device.

39. An electronic device comprising:  
2 means for detecting a power supply failure; and  
means for adjusting a clock frequency of said electronic device in response to said  
4 power supply failure.

40. The electronic device of claim 39, wherein said means for adjusting a clock  
2 frequency decreases said clock frequency in response to said power supply failure.

41. The electronic device of claim 39, wherein said electronic device is a computer.

42. The electronic device of claim 39, wherein said electronic device is an integrated  
2 circuit.

43. The electronic device of claim 39, wherein said means for adjusting a clock  
2 frequency includes a phase-locked loop.

44. The electronic device of claim 39, wherein said means for measuring a power supply  
2 voltage and said means for adjusting a clock frequency automatically operate during  
normal operation of said electronic device.

45. An electronic device comprising:  
2 a system configuration register;  
a clock controller electrically coupled with said system configuration register,  
4 wherein said clock controller receives configuration data from said configuration

register and produces clock signals of varying frequencies in response to said  
6 configuration data; and

a fan failure detector electrically coupled with said clock controller, wherein said  
8 clock controller receives fan data from said fan failure detector and produces  
clock signals of varying frequencies in response to said fan data.

46. The electronic device of claim 45, further comprising:

2 a power supply failure detector electrically coupled with said clock controller,  
wherein said clock controller receives power supply data from said power supply  
4 failure detector and produces clock signals of varying frequencies in response to  
said power supply data.

47. An electronic device comprising:

2 a system configuration register;  
a clock controller electrically coupled with said system configuration register,  
4 wherein said clock controller receives configuration data from said configuration  
register and produces clock signals of varying frequencies in response to said  
6 configuration data; and  
a power supply controller electrically coupled with said system configuration register,  
8 wherein said power supply controller receives configuration data from said  
configuration register and sets a power supply to varying voltages in response to  
10 said configuration data.